INTERFACE CONTROL DOCUMENT

Between the

GSFC DAAC TRMM SUPPORT SYSTEM (TSS)

and the

LaRC DAAC TRMM INFORMATION SYSTEM (LaTIS)

for support of TRMM

September 1997

National Aeronautics and
Space Administration

Goddard Space Flight Center
Greenbelt, Maryland

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1. Introduction

1.1   Identification

This is an Interface Control Document for the Version 1 LaRC and GSFC DAACs. The information in this document was obtained from the TSS and LaTIS websites.

The TSS website address is:

http://daac.gsfc.nasa.gov/TECHNICAL/fallback/interfaces/gdaac_ldaac_icd.html

The LaTIS website address is:

http://eosweb.larc.nasa.gov/~latisweb/

1.2   Scope

This paper covers the operational data flows between the LaRC and the GSFC DAACs with respect to TRMM support. The original intent of this document was to maintain a working agreement between the DAACs for exchange of ancillary and VIRS 1B data in support of the TRMM mission. The decision to baseline this document through the ESDIS ICWG was for informational purposes only. This is not intended to be a detailed interface document.

1.3   Purpose

The purpose of this document is to document the inter-DAAC data flows, now that the EOSDIS Core System (ECS) will not be used to support TRMM.

1.4   Status and Schedule

This document is based on a working, living document to serve as an aid to planning and basis for other inter-DAAC documents, such as an Operational Agreement. The living document will be maintained on the TSS website while changes to this document will handled by the ESDIS project through the ESDIS ICWG (Interface Control Working Group) once both LaTIS and TSS are in agreement of the change.

1.5 Document Organization

Section 1 is the Introduction.

Section 2 is Related Documents.

Section 3 describes the Interface Overview.

Section 4 describes the Inter-DAAC Data Flows.

2. Related Documentation

2.1 Parent Documents

(1) 505-41-40   Interface Control Document Between the EOSDIS Core System (ECS) and the Goddard Space Flight Center (GSFC) Distributed Active Archive Center (DAAC) for the ECS project.

(2) 505-41-39 Interface Control Document Between the EOSDIS Core System (ECS) and the Langley Research Center (LaRC) Distributed Active Archive Center (DAAC) for the ECS project.

(3) 210-TP-001-006   Technical Baseline for the ECS Project.

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3. Interface Overview

The TRMM Support System is an instance of the GSFC DAAC Version 0 system. It is designed to ingest, archive and distribute data from the TMI, PR and VIRS instruments on the TRMM platform, generated by the TRMM Science Data and Information System (TSDIS). Essentially, it consists of the GSFC DAAC Version 0 system with modifications to implement an automated interface with TSDIS and a standing order (subscription) capability for members of the TRMM Science Team. As such, it represents Build 7.0 for the GSFC DAAC.

The Langley TRMM Information System primary mission is to ingest CERES level-0 and ancillary data from various TRMM data providers, archive CERES level-0, ancillary and higher level CERES data products, process CERES level-0 data to higher level CERES data products, and distribute CERES data products to users around the world for the entire TRMM life-cycle.

The interface between the GSFC DAAC TSS and the Langley DAAC LaTIS involves the transfer of ancillary products from TSS to LaTIS as well as the transfer of VIRS 1B from TSS to LaTIS. The figure 3-1 details the data flow to and from the DAACs for TRMM support. The shaded boxes and the arrows between the TSS and LaTIS are the scope of this ICD.

The VIRS 1B data will be handled by the TSS through a subscription. Once the TSS ingests the VIRS 1B data from TSDIS, the TSS sends LaTIS an email notification stating that the data is available and LaTIS will pull the data from the GSFC DAAC's data distribution disk. The ftp location directory name varies, as a security measure. Figure 3-2 is a sample email notification. The email data availability notification is automated, and any anomalies (e.g., the email bounces, or LaTIS doesn't receive any for a long time, or notification for some granules does not come) are handled manually. LaTIS should be able to successfully locate and transfer the data via ftp based upon the instructions provided in the email. If LaTIS experiences difficulties getting the data (e.g., ftp failure, data not present), it will initiate voice or email contact. For the other ancillary data types the TSS will not send LaTIS an email notification. LaTIS will pull (via ftp) these data types off the GSFC DAAC Data Link Server based on the frequency of receipt of the data from the data producers and its availability on the Data Link Server.

Section 4 describes the data products and their frequencies, volumes, formats, locations, and other relevant information.
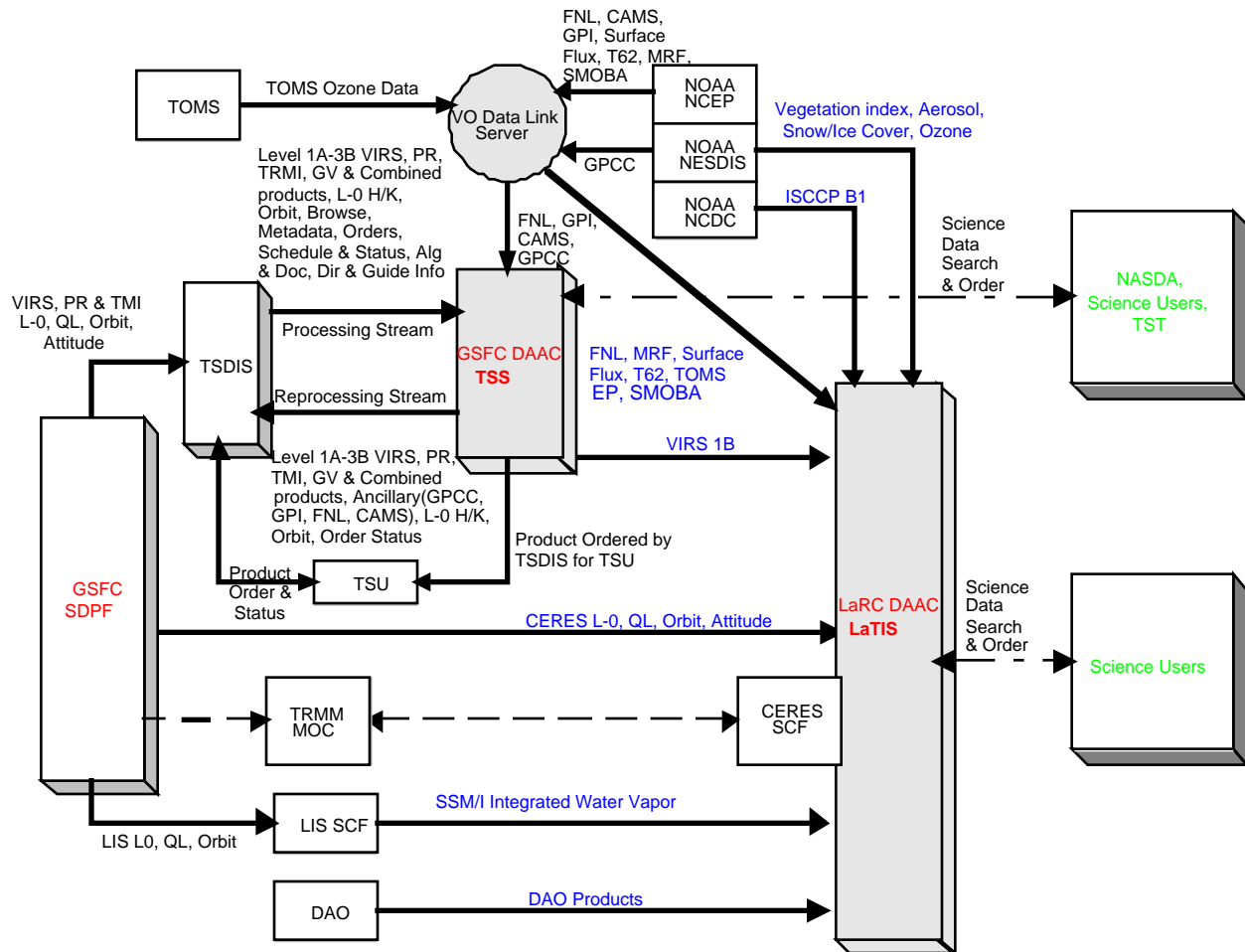
Figure 3-1. TRMM (TSS/LaTIS) Context Interface Overview

Date: Tue, 17 Jun 1997 18:14:52 -0400
From: daac@pond.nascom.nasa.gov (NASA GSFC V0 DAAC)
Subject: Data Ready for FTP--Request 12621
Reply-To: daacuso@eosdata.gsfc.nasa.gov
Errors-To: daacuso@eosdata.gsfc.nasa.gov
Apparently-To: tss@samantha.larc.nasa.gov

The files listed below have been staged for FTP pickup at the GSFC
V0 DAAC in response to request number 12621. To obtain the files,
login as anonymous to the FTP site pond.nascom.nasa.gov
Then cd to the directory
/.systest/dist/1000473/R12621_26311.27220.28128
and use get or mget to retrieve the files. In order to provide the best
possible service to all of our customers, we must regularly clean up
our ftp disk space. We ask that you please pick up your data promptly
and guarantee that your data will be available for at least 3 days
following this notice.
If you have questions or problems, contact the User Services Office.
     Email: daacuso@daac.gsfc.nasa.gov
     Phone: (301) 614-5224
Files Ready for Transfer:
     1B01.970611.8.1.HDF.Z (44335 KB)

Figure 3-2. Sample email from TSS to LaTIS

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4. Inter-DAAC Data Flows

4.1 VIRS 1B Data

DATA_SET	VIRS 1B
FROM:	GDAAC TRMM Support System
TO:	LaRC DAAC
TIME_LAG:	On arrival at GDAAC TSS
FREQUENCY:	Continual (probably every 2 hours)
FILES/DAY:	16+32=48(processing+reprocessing=total
VOLUME/DAY:	1398+2796=4194 MB(processing+reprocessing=total)
NOTIFICATION:	Email
HOSTNAME:	lake.nascom.nasa.gov (included in email notification)
DIRECTORY:	Generated at run time; listed in email notification
FILE_NAME:	1B01.YYMMDD.n.v.HDF (n = orbit number, v=version number)
START_DATE:	~1997-12-15
RESIDENCE_TIME:	48 hours.
DATA_FORMAT:	HDF-EOS* (Unix-compressed, if compressible)
USER:	CERES (required)
RESTRICTIONS:	No distribution to general users until the first reprocessing at about Launch + 6-7 months
GDAAC_POC:	Bill Teng
LDAAC_POC:	Jill Travers

*TSDIS follows the HDF-EOS specifications but does not use the SDP toolkit, resulting in possible discrepancies from HDF-EOS as implemented by ECS. The ESDIS project is responsible for resolving these discrepancies and ensuring that a work-around is developed if necessary.

4.2   NCEP Surface Flux

DATA_SET	NCEP Surface Flux
FROM:	GDAAC Data Link Server
TO:	LaRC DAAC
TIME_LAG:	On arrival at Data Link Server
FREQUENCY:	4/day
FILES/DAY:	4
VOLUME/DAY:	16.4 MB
NOTIFICATION:	None
HOSTNAME:	larry.gsfc.nasa.gov
DIRECTORY:	pub/ncep_data/anal_YYMM/anal_YYMMDD
FILE_NAME:	gdas1.SFLUXGrbF06.YYMMDD.HHz
START_DATE:	1997-03-15
RESIDENCE_TIME:	2 weeks
DATA_FORMAT:	GRIB (uncompressed for 2 most recent weeks)
USER:	CERES (secondary to DAO)
RESTRICTIONS:	None
GDAAC_POC:	Qiulian Yang
LDAAC_POC:	Jill Travers

4.3   NCEP T62 Spectral Coefficients (Sigma Product)

DATA_SET	NCEP T62 Spectral Coefficients (Sigma Product)
FROM:	GDAAC Data Link Server
TO:	LaRC DAAC
TIME_LAG:	On arrival at Data Link Server
FREQUENCY:	4/day
FILES/DAY:	4
VOLUME/DAY:	7.4 MB
NOTIFICATION:	None
HOSTNAME:	larry.gsfc.nasa.gov
DIRECTORY:	pub/ncep_data/anal_YYMM/anal_YYMMDD
FILE_NAME:	gdas2.SAn1.YYMMDD.HHz
START_DATE:	1997-03-15
RESIDENCE_TIME:	2 weeks
DATA_FORMAT:	GRIB (uncompressed for 2 most recent weeks)
USER:	CERES (secondary to DAO)
RESTRICTIONS:	None
GDAAC_POC:	Qiulian Yang
LDAAC_POC:	Jill Travers

4.4 TOMS Level 3 (EP)

DATA_SET	TOMS Level 3 (EP)
FROM:	GDAAC Data Link Server
TO:	LaRC DAAC
TIME_LAG:	On arrival at Data Link Server
FREQUENCY:	Daily
FILES/DAY:	1/day
VOLUME/DAY:	0.16 MB
NOTIFICATION:	None
HOSTNAME:	larry.gsfc.nasa.gov
DIRECTORY:	pub/eptoms/ozYY/
FILE_NAME:	gaYYMMDD.ept
START_DATE:	1997-03-15
RESIDENCE_TIME:	2 weeks
DATA_FORMAT:	ASCII (uncompressed)
USER:	CERES (secondary to NCEP SMOBA)
RESTRICTIONS:	None
GDAAC_POC:	Qiulian Yang
LDAAC_POC:	Jill Travers

4.5 NCEP SMOBA

DATA_SET	NCEP SMOBA (Strat. Monitoring Group Ozone Blended Analysis) (24 levels O3 and total ozone)
FROM:	GDAAC Data Link Server
TO:	LaRC DAAC
TIME_LAG:	On arrival at Data Link Server
FREQUENCY:	Daily
FILES/DAY:	1
VOLUME/DAY:	2.43 MB
NOTIFICATION:	None
HOSTNAME:	larry.gsfc.nasa.gov
DIRECTORY:	pub/data/SMOBA_YYMM/
FILE_NAME:	ozYYMMDD.dat
START_DATE:	1997-04-23
RESIDENCE_TIME:	2 weeks
DATA_FORMAT:	ASCII (uncompressed)
USER:	CERES (primary option)
RESTRICTIONS:	None
GDAAC_POC:	Qiulian Yang
LDAAC_POC:	Jill Travers

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Abbreviations and Acronyms

CAMS	Climate Analysis and Monitoring System
CERES	Clouds and Earth's Radiant Energy System
DAAC	Distributed Active Archive Center
ECS	EOSDIS Core System
EOS	Earth Observing System
EOSDIS	EOS Data and Information System
ESDIS	Earth Science Data and Information System
FNL	Final Analysis and Forecast System, Global Analysis
ftp	File Transfer Protocol
GOES	Geostationary Operational Environmental Satellite
GPCC	Global Precipitation Climatology Centre
GPI	GOES Precipitation Index
GRIB	GRid In Binary
GSFC	Goddard Space Flight Center
HDF	Hierarchical Data Format
ICD	Interface Control Document
ICWG	Interface Control Working Group
L-0	Level Zero Data
LaRC	Langley Research Center
LaTIS	Langley DAAC TRMM Information System
MB	Megabyte
MRF	Medium Range Forecast System
NASA	National Aeronautics and Space Administration
NASDA	National Space Development Agency of Japan
NCDC	National Climatic Data Center (NOAA)
NCEP	National Center for Environmental Prediction

NESDIS	National Environmental Satellite Data and Information Service
NMC	National Meteorological Center (NOAA)
NOAA	National Oceanic and Atmospheric Administration
POC	Point of Contact
PR	Precipitation Radar
QL	Quicklook Data
SCF	Science Computing Facility
SDPF	Sensor Data Processing Facility
SMOBA	Stratosphere Monitoring Group Ozone Blended Analysis
SSM/I	Special Sensor Microwave/Imager
TMI	TRMM Microwave Imager
TOMS	Total Ozone Mapping Spectrometer
TRMM	Tropical Rainfall Measuring Mission
TSDIS	TRMM Science Data and Information System
TSS	TRMM Support System
TST	TRMM Science Team
TSU	TSDIS Science User
VIRS	Visible and Infrared Scanner
WWW	World Wide Web